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ABSTRACT

This document is a chronology of activities and accomplishments of the New Jersey Commission on Technology Education (COTE) since its inception in 1984. It is intended to provide interested education leaders with information on COTE's management structure and activities that they may want to adapt and adopt. COTE is a statewide coalition of business, education, and government leaders that developed and implemented a K-12 technology-oriented program for New Jersey public schools. The document contains the names and titles of COTE members, a mission statement, a chronology of activities from 1984-1990, a list of COTE publications, and a list of endorsements for New Jersey technology education. (CML)

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HISTORICAL PERSPECTIVE

1984 - 1990

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Commission on Technology Education
for the State of New Jersey

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CE 055 324

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In 1984, the industrial arts profession nationally began to seriously explore the issue of technology as a basis for content change. In New Jersey a unique and highly effective statewide coalition of business, education, and government leaders was organized through a grant funded by the New Jersey Department of Education, Division of Vocational Education to investigate this new field. This coalition became known as the Commission on Technology Education (COTE) for the State of New Jersey. COTE was charged with developing and implementing a K-12 technology-oriented program for the public schools of the state. Throughout the succeeding five years, technology courses of study were developed, teachers were retrained through in-service programs, and an aggressive public information campaign was initiated. Because of this management approach and the dedication of educators at all levels, New Jersey has emerged as a leader in the field of Technology Education.

Educators from around the United States and from several countries have made inquiries concerning New Jersey's effective delivery system for Technology Education. The purpose of this document is to provide those education leaders with a brief chronology of COTE's activities and accomplishments since its inception. It is anticipated that those interested in New Jersey's approach will be able to take this information and adopt/adapt the management structure of COTE and its activities to their own unique situation.

COMMISSION ON TECHNOLOGY EDUCATION FOR THE STATE OF NEW JERSEY

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Dr. Robert Nogueira, Principal
Red Bank Regional High School

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NJ Technology for Children Association

Thomas Thiele, Director,
Operations & Technology Utilization, Siemens Corporate Research

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Dr. Robert Weber, President
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The Commission on Technology Education for the State of New Jersey has as its mission three priorities for planning and action:

- *To promote, assist, and encourage the expansion of Technology Education programs and activities in the State*
- *To encourage the cooperation, assistance and participation of the business/industry community of the State in the strengthening of Technology Education in the public schools and colleges*
- *To provide information, assistance and publications to policymakers and others concerned with the development and expansion of Technology Education programs in the State.*

- At the 1984 American Industrial Arts Association Conference, technology education begins to emerge as a topic for discussion

- New Jersey Division of Vocational Education and Montclair State College develop a concept for a review of industrial arts in New Jersey and the possibility of a grant to fund such a review

- Several national studies concerning education in America stress the need for more education in the basics. Along with science and math, the study of technology is recommended

- British School Technology begins to emerge on the international scene

- New York Futuring Project issues report on the study of technology:
  - identifies objectives for the study of technology
  - identifies retrained industrial arts teachers as teachers of technology
  - requires one year of technology at the middle school level

- The New Jersey Commission on Science and Technology recommends that public schools of the state develop and/or strengthen the study of technology in the curriculum

- Data from across the state indicates that industrial arts programs are in jeopardy because of:
  - declining school enrollments
  - disproportional decline in industrial arts student enrollments
  - students failing proficiency tests are taken from industrial arts classes for remediation
  - increased graduation requirements are taking students from industrial arts courses
  - continual decline in quality of students served by industrial arts
  - decline in perceived industrial arts relevancy by students, parents, and school administrators

- The Industrial Arts Education Association of New Jersey arranges a meeting with New Jersey Assistant Commissioner for Vocational Education to discuss the national technology education movement. The Assistant Commissioner for Vocational Education states that the industrial arts profession must develop its own plan for change and present those plans to the total profession and the New Jersey Division of Vocational Education

- Initial grant proposal is submitted to establish a Commission on Industrial Arts for the State of New Jersey

1984/85

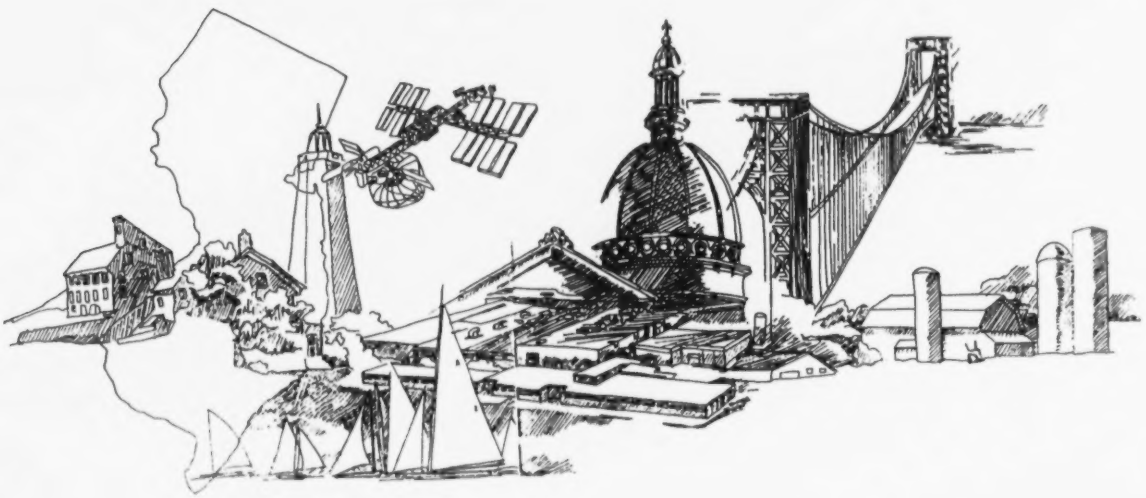
- Commission on Industrial Arts for the State of New Jersey formed through a grant received by Montclair State College from the New Jersey Division of Vocational Education
    - Director of Corporate Training, NJ Bell selected as chairperson

- Five year plan is developed to:
    - review status of Industrial Arts in New Jersey and nation
    - review the study of technology as a component of the school curriculum
    - review definitions of technology
    - review possible objectives for technology education

- Five year plan presented at two statewide hearings of the industrial art profession

- Recommendation of the industrial arts profession:
    - Reduce five year plan to three years

- Commission publishes:
  1985 Report of the Commission on Industrial Arts for the State of New Jersey
  Industrial Arts in Transition: the Emergence of Technology Education
    - Report identified the objectives and time-lines of the three year plan
    - Report receives endorsement of Anton Campanella, President of New Jersey Bell



- Two day task force workshop is held to establish definition of technology, objectives of technology education, and identify curricular goals across all grade levels
    - 34 individuals participated in the task force representing teachers from several disciplines, teachers from several grade levels, school administrators, and the NJ-Division of Vocational Education

- Two schools undertake assessment of programs using the Standards for Industrial Arts in New Jersey. This establishes the Standards as a mechanism for program change in industrial arts.

- Commission changes its name to the Commission on Technology Education (COTE) for the State of New Jersey

- Formal presentations by the COTE are given at the state and national levels

- Recommendations as identified in the 1985 report receive the endorsement of the Vocational Education Committee of the New Jersey Education Association

- Graduate level class begins to develop middle school/high school introductory course in technology.

- New Jersey Technology Curriculum Model is developed

- COTE letterhead and logo design is established. NJ Bell's mailing address is used as COTE's mailing address. Intent is to show statewide business support for Technology Education

- Public Service Electric & Gas Company, the largest energy utility company in New Jersey, becomes a member of COTE

- COTE mission statement is developed

- COTE members visit England to study British system of Technology Education

- First draft of Level I: Introduction to Technology (designed for grades 7-10) course of study is published

- Pilot testing of Level I begins

- The New Jersey Technology Curriculum Model developed:
  - K-12 model is recommended
  - Model represents a generic approach rather than a cluster approach to the study of technology

- COTE delivers presentation to NJ State Board of Education to recommend that technology be a requirement for high school graduation

- In-service graduate classes are conducted to begin teacher training in Level I: Introduction to Technology curriculum

- First statewide technology conference held:
  - Anton Campanella, president of NJ Bell is keynote speaker
  - 200 teachers, school adminstrators and business leaders attend

- NJ Commission on Science and Technology becomes an ex-officio member of COTE

- COTE makes presentation on NJ Technology Curriculum at the Royal Melbourne Institute of Technology Centenary International Conference in Melbourne, Australia

- Public Service Electric & Gas testifies before the Panel of the State of NJ Division of Vocational Education to solicite support for New Jersey Technology Education

- COTE becomes member of planning committee for the NJ Science and Technology Center

- Upper level Technology Education (Energy Systems, Information Systems, Invention/Innovation, Technical Presentation, Transportation, and Control Technology) courses begin development

- In-services graduate classes for Level I: Introduction to Technology expanded to include southern New Jersey

- First visitation by COTE members to a Level I pilot test school

- New Three Year Plan developed by COTE. Two public hearings are held to review the plan

- COTE begins investigation of possible certification of teachers of technology

- Center for Technology Education (a technology resource center) is established at Trenton State College

- TIES magazine promotes the NJ Technology Curriculum Model and method of teaching

- 1987 Report of COTE, Technology Education: Learning How to Learn in a Technological World, is published and distributed
    - Report is endorsed by James Ferland, CEO, Public Service Electric & Gas Company
    - 4000 copies are produced gratis by Print NJ, Inc.

- Full-time COTE project director position is established

- Two million copies of NJ Bell TelNews which includes an article highlighting COTE and the leadership role the state has in developing and promoting Technology Education

- T is for Technology videotape is produced
    - The videotape is funded jointly by NJ Division of Vocational Education, Public Service Electric & Gas Company and New Jersey Bell
    - Video highlights impact of Technology Education on schools and students in New Jersey

- Technology Education brochure is produced based on the 1987 report
    - Governor of New Jersey states that the best way to teach thinking is through Technology Education

- Upper level courses continue development

- Business Week article identifies NJ as a leader in Technology Education

- NJ Technology Education is lead article in School Leader magazine.
    - School Leader is a publication of the New Jersey School Boards Association and is distributed to every school administrator and school board member in New Jersey

- Level I: Introduction to Technology is published

- Second statewide technology conference is held
    - Dr. Shirley Jackson, member of the NJ Commission on Science & Technology is keynote speaker
    - 500 participants attend the conference
    - Breakfast seminar is held for statewide business/industry leaders

- COTE chairperson is appointed to National Technology Education Advisory Board

- Educators from Australia, Netherlands, England, Belize, and UNESCO visit New Jersey to observe Technology Education

- PSE&G produces slides and transparencies on NJ Technology Education to be used by COTE for corporate and school administrator presentations

- Israel requests COTE materials and indicates desire to send Israeli representative to NJ Technology Conference '90

- COTE delivers presentation to NJ Presidents' Council. The Presidents' Council is a forum for interaction and sharing of ideas and issues between the presidents of major NJ corporations

- COTE delivers presentation to State of Washington. Washington indicates that they may adopt the NJ Technology Curriculum Model

- Two NJ technology teachers participate in the Science/Technology workshop sponsored by Bell Atlantic and George Washington University in Washington, DC

- Is Technology Teaching for You? brochure is published and disseminated. Brochure is designed to attract middle and high school students to possible consideration of technology teaching as a career

- Technology teachers receive Governor's Excellence in Teaching Awards

- Preliminary technology demonstration sites are identified:
    - 435 out of the 600 NJ school districts are contacted
    - 95 indicated willingness to be a demonstration site
    - 47 identified as possible demonstration sites

- Statewide Technology Conference '90 held. Dr. Woodie Flowers of Massachusetts Institute of Technology, the Department of Mechanical Engineering, is keynote speaker

- NJ Division of Vocational Educational establishes state supervisory positions for industrial arts, elementary school technology, and technology education

- Annual report of the NJ Commission on Science and Technology identifies their support for COTE and Technology Education in the state

- COTE undertakes an urban initiative for Technology Education through presentations at two statewide technology conferences

- Regional Technology Resource Centers are expanded to include Glassboro State College and Montclair State College in addition to Trenton State College

- COTE undertakes a sex equity initiative for Technology Education through statewide workshops. Purpose of the workshops are to begin dialogue regarding sex equity issues in Technology Education including development of strategies and identification of resources for future use

- COTE is contacted by Channel 13 TV for possible program on "CRISIS: WHO WILL DO TECHNOLOGY?"

- COTE technology teacher certification inquiry continues

- COTE conducts national survey to determine student technology proficiencies

- COTE distributes publications to both gubernatorial candidates

- COTE testifies (by request) before the NJ Assembly sub-committee on education regarding future goals for vocational education

- Johnson & Johnson Corporation expresses interest in COTE

- School Shop uses the NJ Technology Curriculum Model as an example of an innovative approach to Technology Education

- NJ-BISEC (New Jersey Business/Industry/Science Education Consortium) receives $500,000 grant from the National Science Foundation to provide business/industry internships for math, science and technology educators

- COTE receives request for Technology Education materials from Georgia, Florida, Oklahoma and Alaska

- Florida State Department of Education visits New Jersey Technology Education programs

- Dr. James Tietjen, President & CEO of the David Sarnoff Research Center, in his keynote address at the N.J. Commission on Science & Technology and the Research & Development Council of N.J. Conference calls for "business people to become more involved with educators, legislators and decision makers in general by encouraging and supporting programs such as those developed by the Commission on Technology Education for the State of New Jersey..."

- COTE receives request to deliver a presentation at PATT Conference in Poland

- Egypt expresses interest in activities of COTE

- Representatives of the Scottish Development Agency and the Florida State Department of Education visit a Technology Education program

- Because of legal constraints the NJ Division of Vocational Education cannot continue COTE funding

PUBLICATIONS OF THE COMMISSION ON TECHNOLOGY EDUCATION FOR THE STATE OF NEW JERSEY

Introduction to Technology Education: Level I

Introduction to Design & Technology (Middle School)

Drafts of Upper Level Courses:
- "Transportation Technology"
- "Invention & Innovation"
- "Exploring Communication Technologies"
- "Energy Systems"
- "Technical Presentation"
- "TV Production"
- "Architectural Design"
- "Pre-Engineering Technology"

TLA 1986-87

TLA 1987-88

New Jersey Tel-News

"T is for Technology" videotape

Anton J. Campanella's Keynote Address, NJ Technology Conference '88

1985 Commission Report - "Industrial Arts Education in Transition: The Emergence of Technology Education"

1987 Commission Report - "Technology Education: Learning How to Learn in a Technological World"

New Jersey Technology Education brochure

"Is Technology Teaching for You" brochure

3 Year Plan

"Uniting to Promote Technology Education", The Technology Teacher, by Alice Van Deursen and Nina Kelty

Teachers' Guide to Problem Solving as a Technology Teaching Strategy

"Future Education Issues in Industry"

"Restoring the Power", TIES, by Joseph LoCascio

ENDORSEMENTS FOR NEW JERSEY TECHNOLOGY EDUCATION

Governor of New Jersey Thomas Kean

James Ferland,CEO, Public Service Electric and Gas Company

Karl Zaininger, President/CEO, Siemens Corporate Research Inc.

Anton Campanella, President, New Jersey Bell

New Jersey Commission on Science and Technology

Dr. James Tietjen, President & CEO of the David Sarnoff Research Center

New Jersey Education Association

Technology Education Association of New Jersey

Technology for Children (T4C)

Australia

England

Florida

Texas

Washington

International Technology Education Association

International Technology Education Association National Advisory Board

Business Week Magazine

School Shop Magazine

The Technology Teacher Magazine

Governor of New Jersey James Florio

Educational Development Center, Washington, DC

Ministry of Education, Government of Egypt

MONTCLAIR STATE